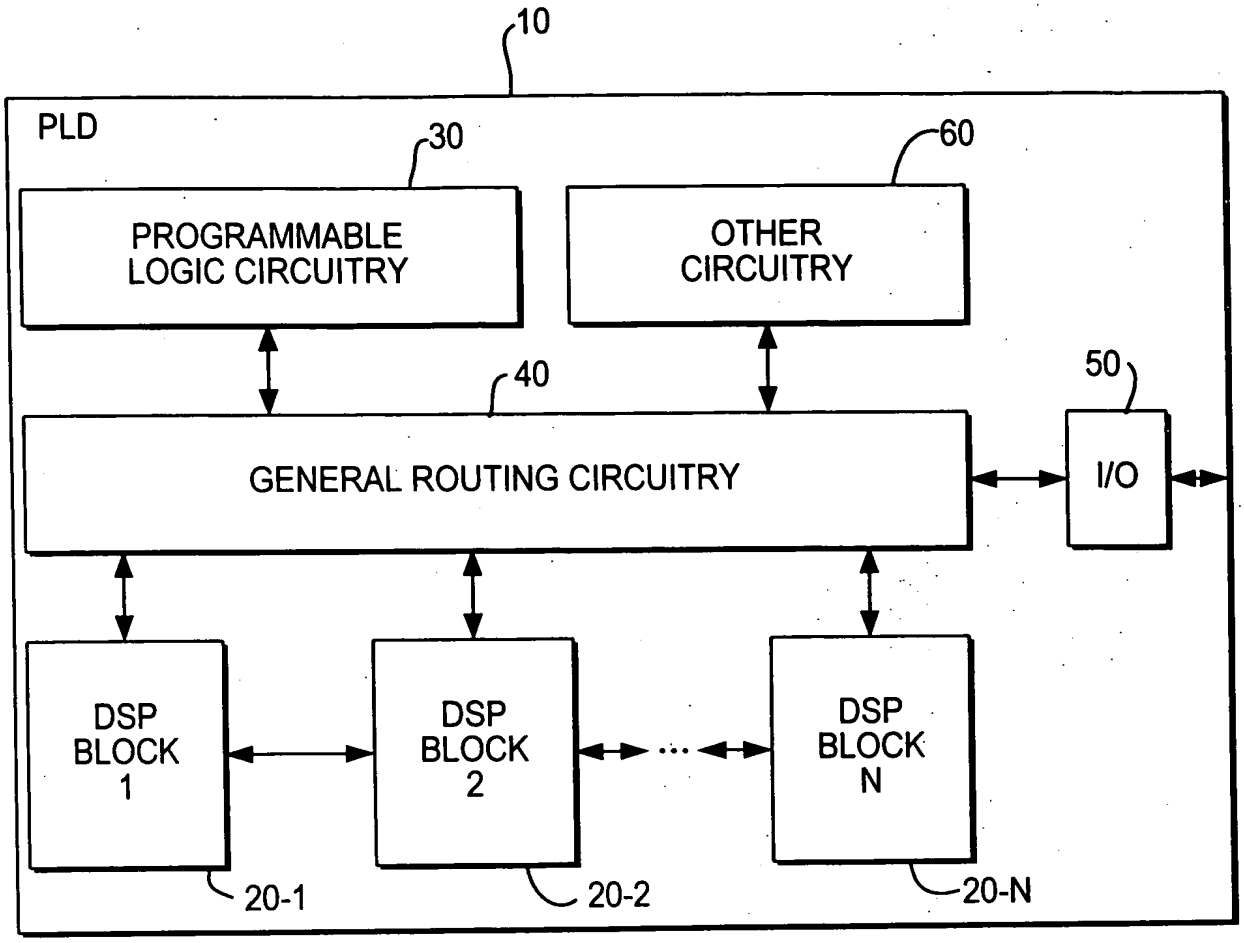
10
PLD
30
60
PROGRAMMABLE LOGIC CIRCUITRY
OTHER CIRCUITRY
40
50
GENERAL ROUTING CIRCUITRY
I/O
DSP BLOCK 1
DSP BLOCK 2
DSP BLOCK N
20-1
20-2
20-N

FIG. 1

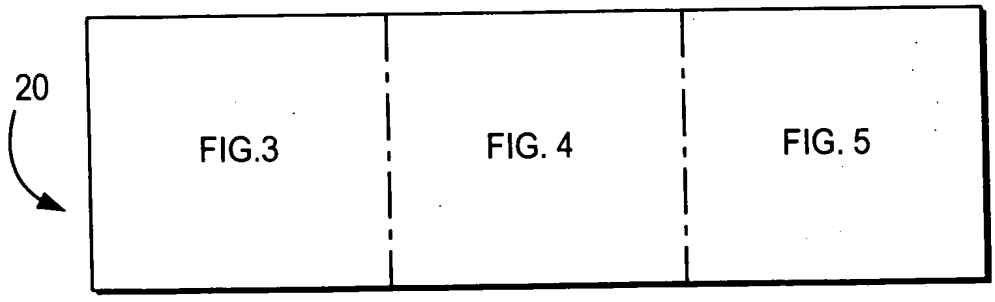
20
FIG.3
FIG. 4
FIG. 5

FIG. 2

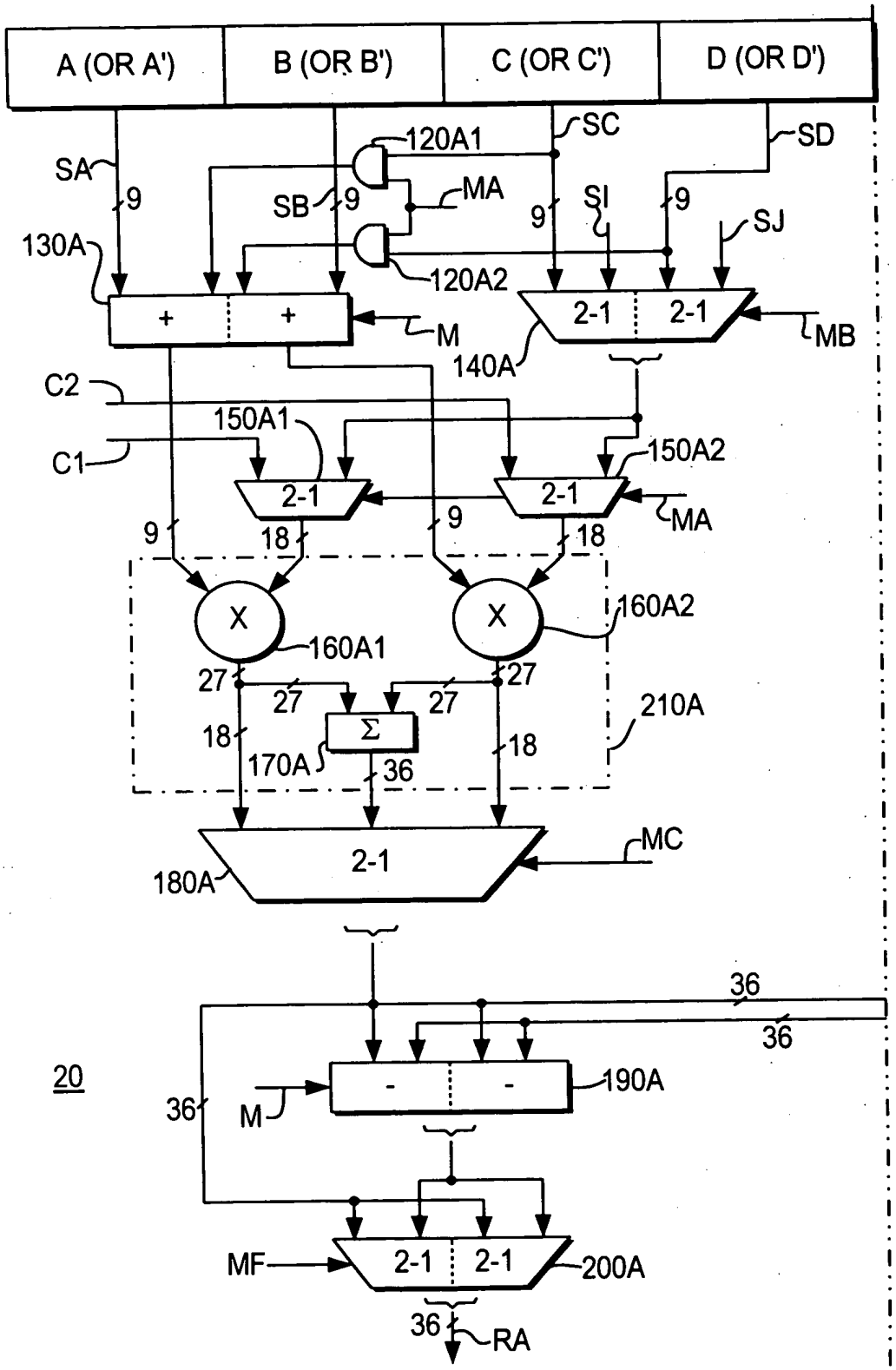
A (OR A')
B (OR B')
C (OR C')
D (OR D')
SA
SB
SC
SD
SI
SJ
9
120A1
120A2
MA
130A
+
+
M
2-1
2-1
MB
140A
C2
C1
150A1
150A2
MA
18
X
160A1
160A2
27
Σ
170A
36
210A
180A
MC
TO FIG. 4
20
190A
MF
200A
RA

FIG. 3

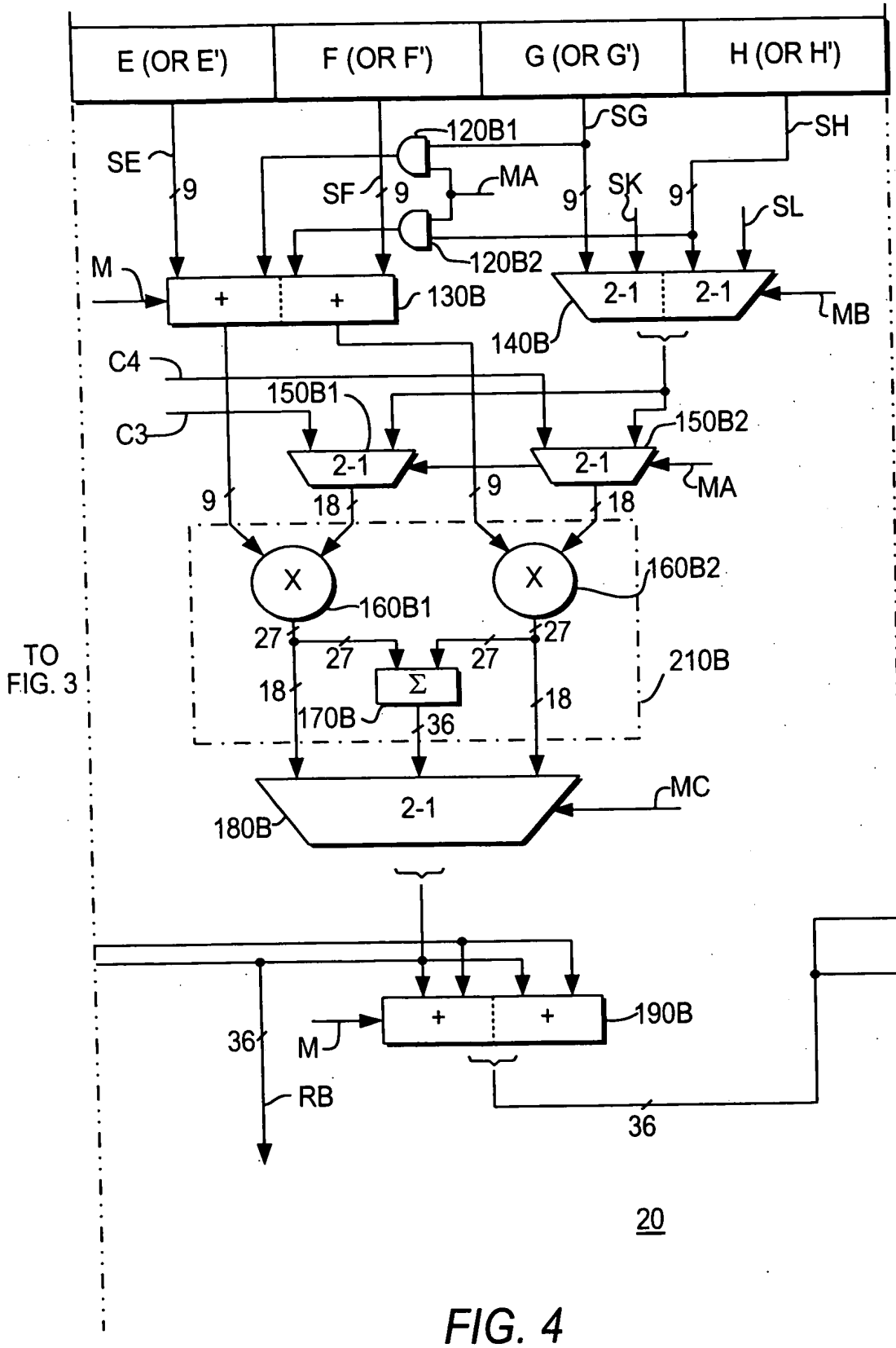
E (OR E')
F (OR F')
G (OR G')
H (OR H')
SE
SF
SG
SH
SK
SL
MA
MB
MC
M
C4
C3
120B1
120B2
130B
140B
150B1
150B2
160B1
160B2
170B
180B
190B
210B
2-1
X
Σ
+
9
18
27
36
TO FIG. 3
TO FIG. 5
RB
20

FIG. 4

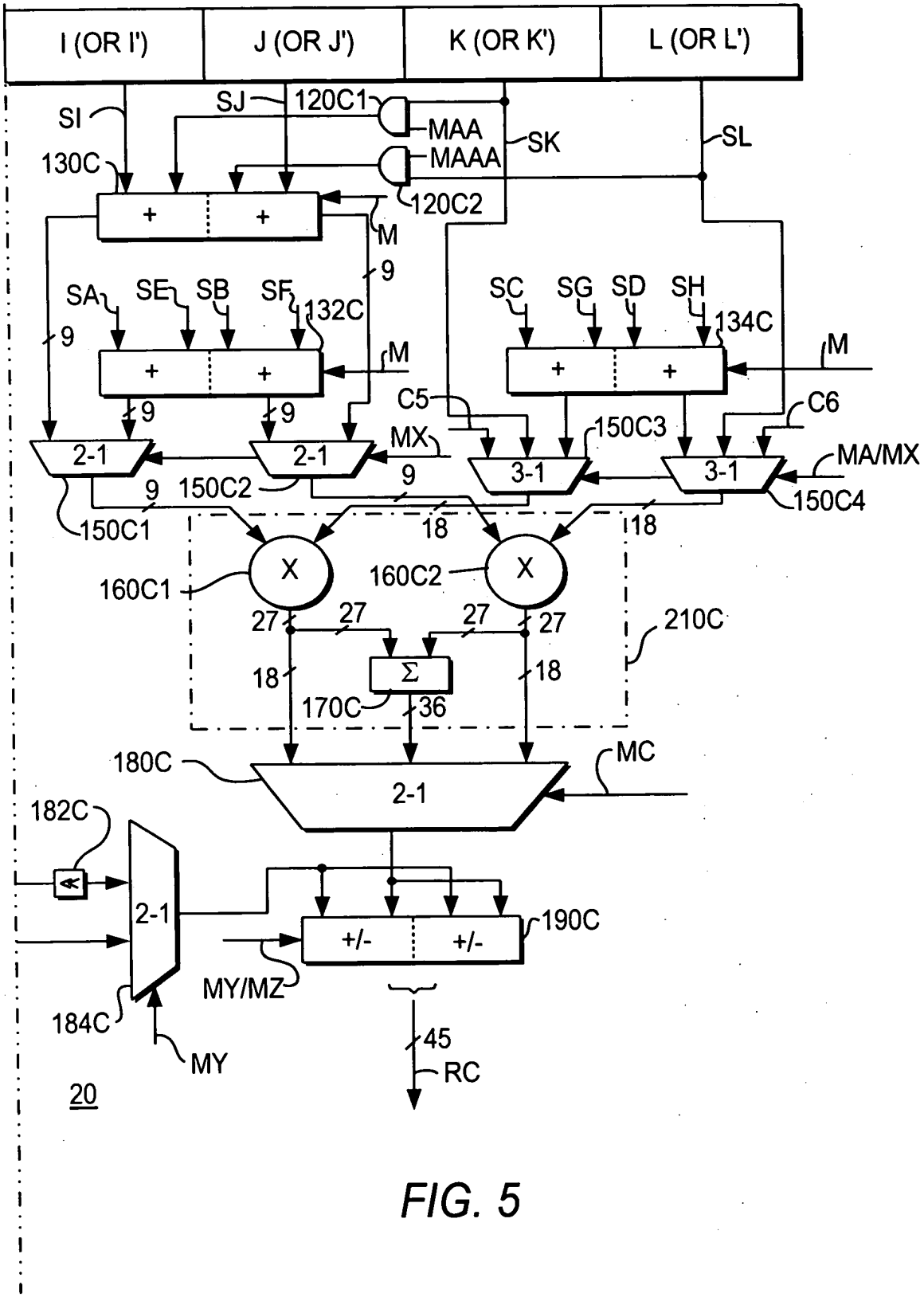
I (OR I')
J (OR J')
K (OR K')
L (OR L')
SI
SJ
120C1
MAA
MAAA
SK
SL
130C
120C2
M
9
SA
SE
SB
SF
132C
SC
SG
SD
SH
134C
C5
C6
150C3
MX
MA/MX
2-1
3-1
150C2
150C1
150C4
18
160C1
160C2
X
27
210C
Σ
170C
36
180C
MC
182C
190C
+/-
MY/MZ
184C
MY
45
RC
20

FIG. 5

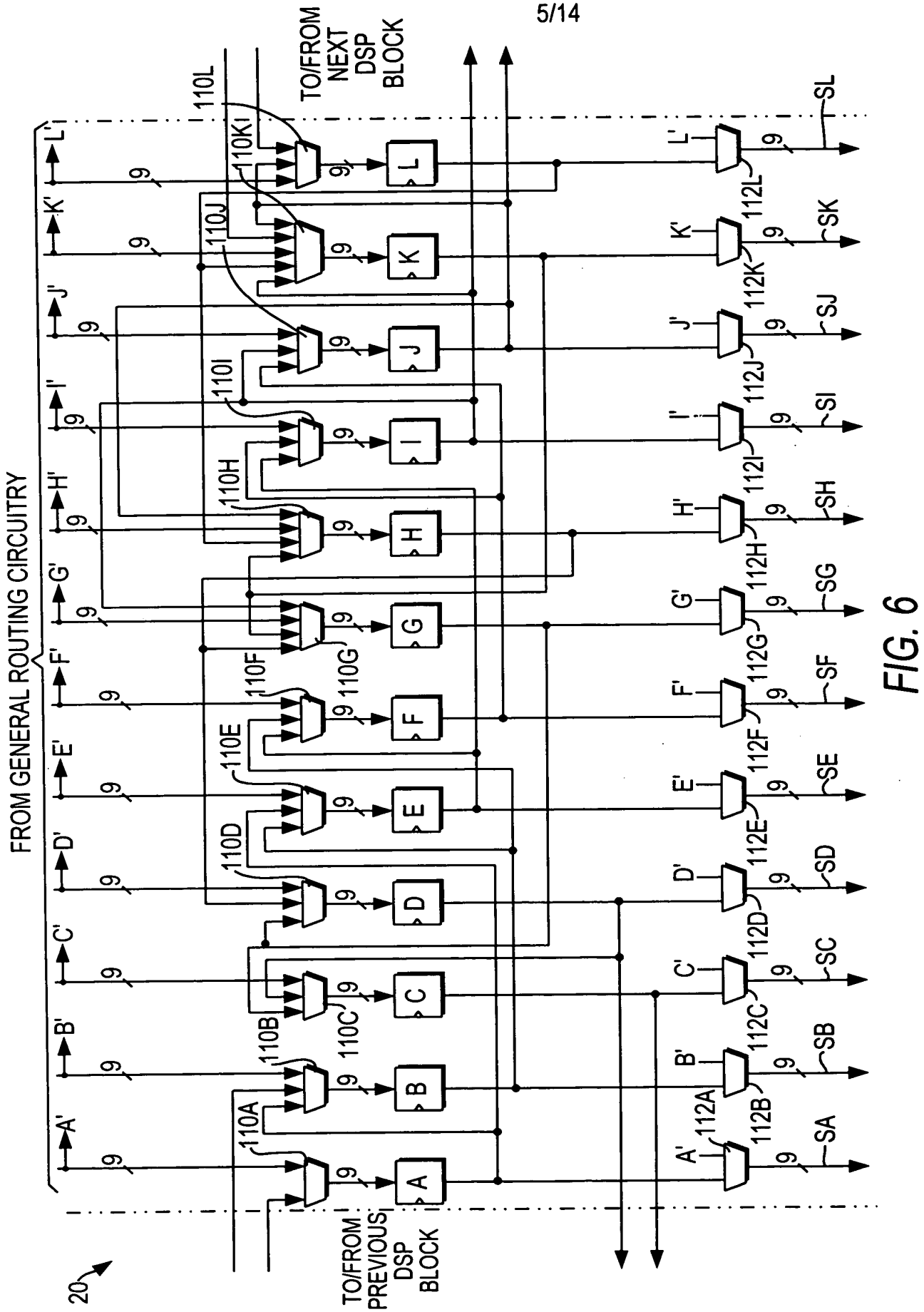
FROM GENERAL ROUTING CIRCUITRY
TO/FROM NEXT DSP BLOCK
TO/FROM PREVIOUS DSP BLOCK
20
110L
110K
110J
110I
110H
110G
110F
110E
110D
110C
110B
110A
L'
K'
J'
I'
H'
G'
F'
E'
D'
C'
B'
A'
9
L
K
J
I
H
G
F
E
D
C
B
A
112L
112K
112J
112I
112H
112G
112F
112E
112D
112C
112B
112A
SL
SK
SJ
SI
SH
SG
SF
SE
SD
SC
SB
SA

FIG. 6

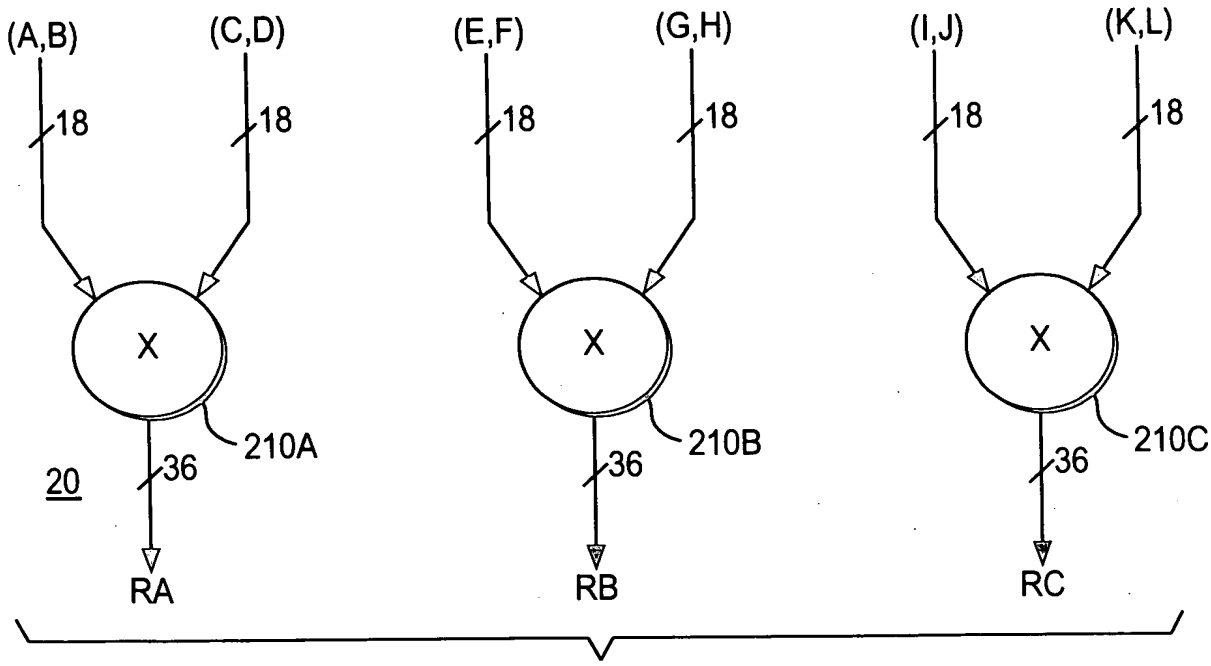
(A,B)
(C,D)
(E,F)
(G,H)
(I,J)
(K,L)
18
X
210A
210B
210C
36
20
RA
RB
RC

FIG. 7

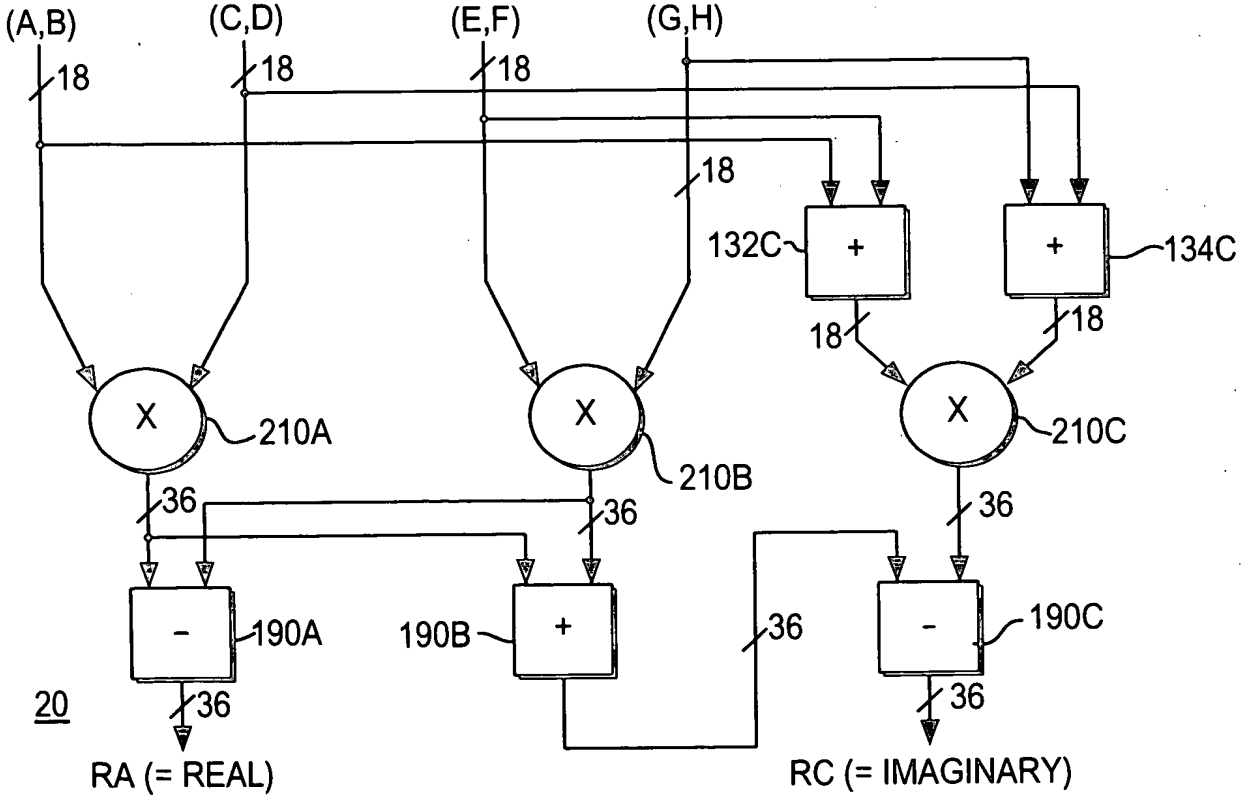
(A,B)
(C,D)
(E,F)
(G,H)
18
132C
134C
+
X
210A
210B
210C
36
-
190A
190B
190C
20
RA (= REAL)
RC (= IMAGINARY)

FIG. 8

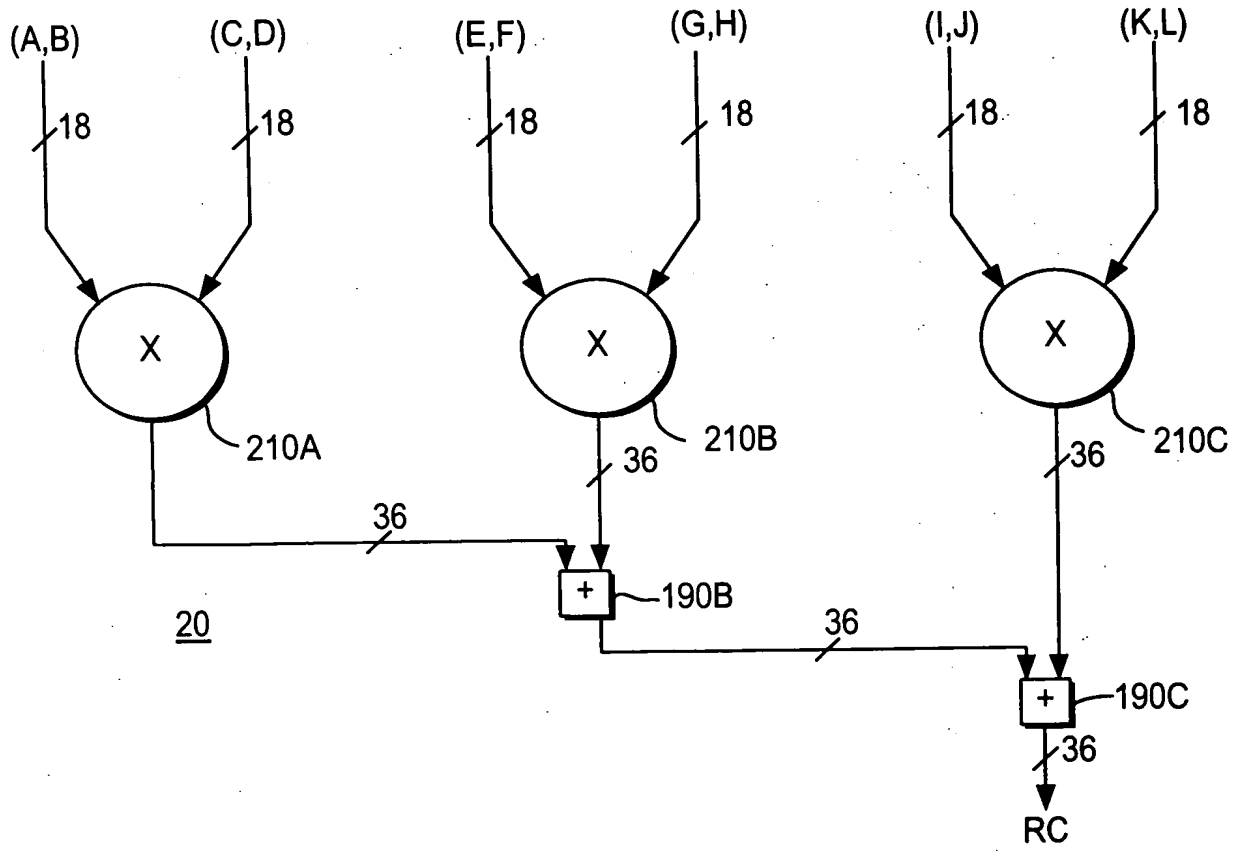
(A,B)
(C,D)
(E,F)
(G,H)
(I,J)
(K,L)
18
18
18
18
18
18
X
X
X
210A
210B
210C
36
36
36
36
+
+
190B
190C
36
20
RC

FIG. 9

8/14

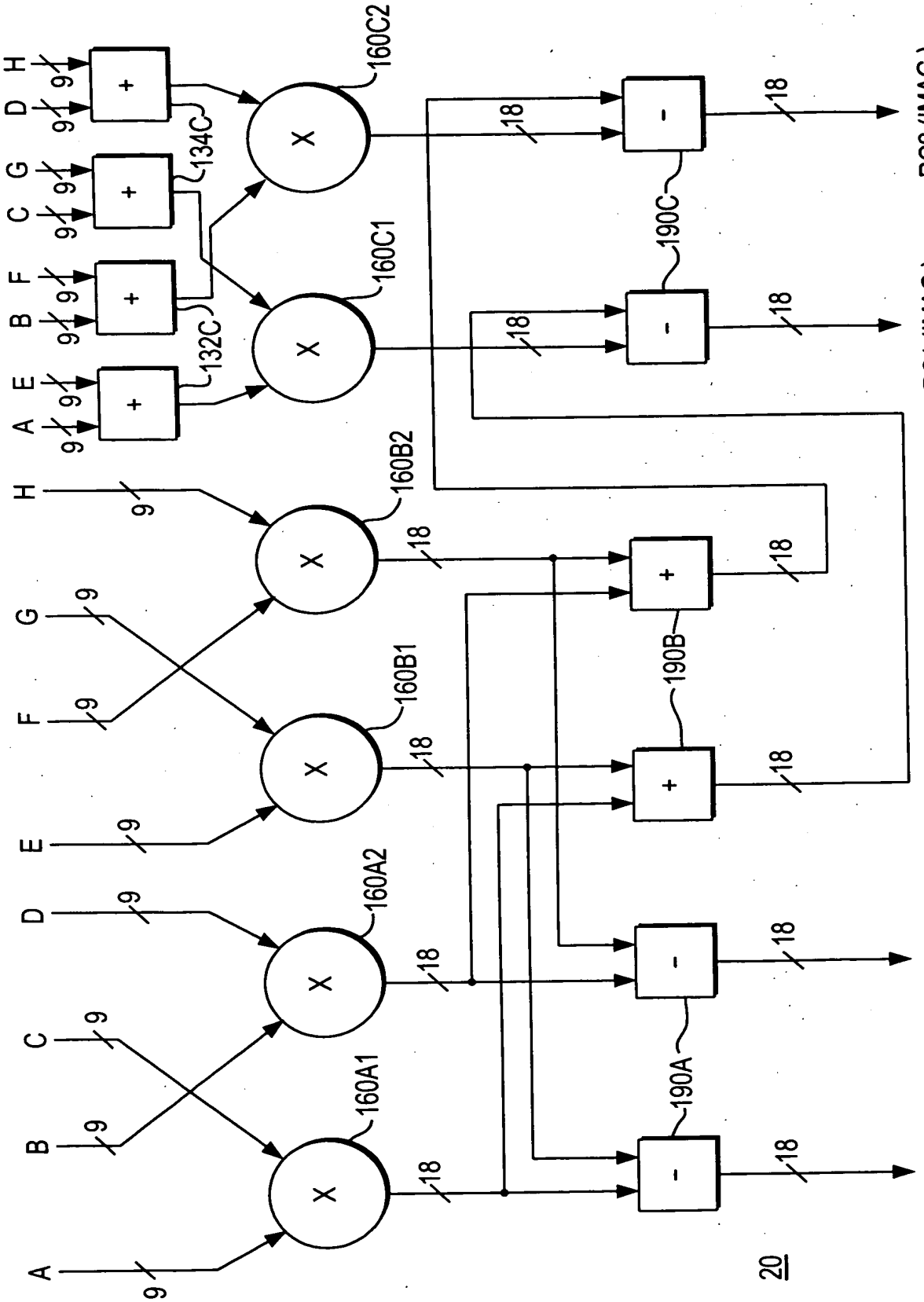
A
B
C
D
E
F
G
H
9
160A1
160A2
160B1
160B2
160C1
160C2
132C
134C
18
190A
190B
190C
RA1 (REAL)
RA2 (REAL)
RC1 (IMAG.)
RC2 (IMAG.)
20

FIG. 10

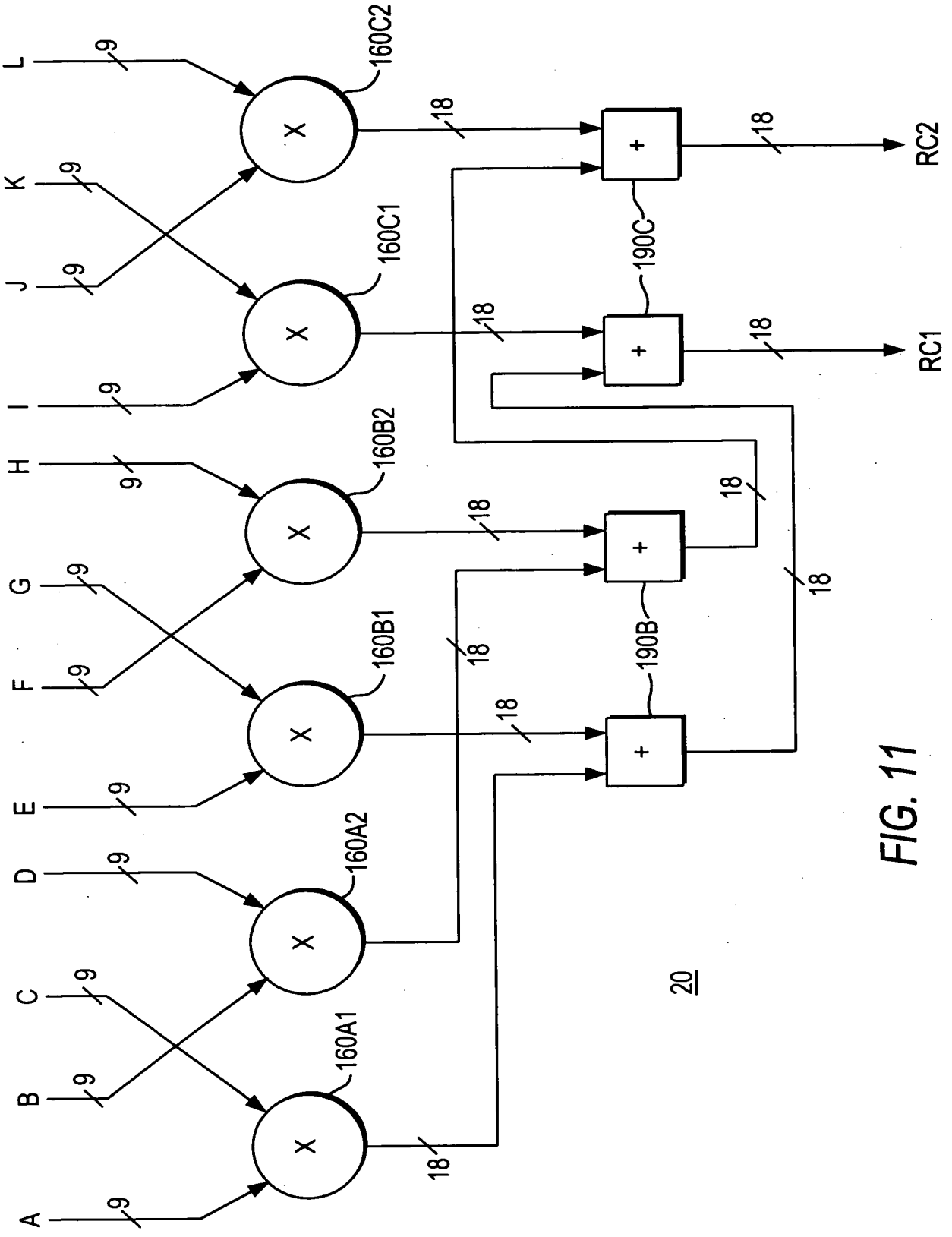
L
K
J
I
H
G
F
E
D
C
B
A
9
X
160C2
160C1
160B2
160B1
160A2
160A1
18
+
190C
190B
RC2
RC1
20

FIG. 11

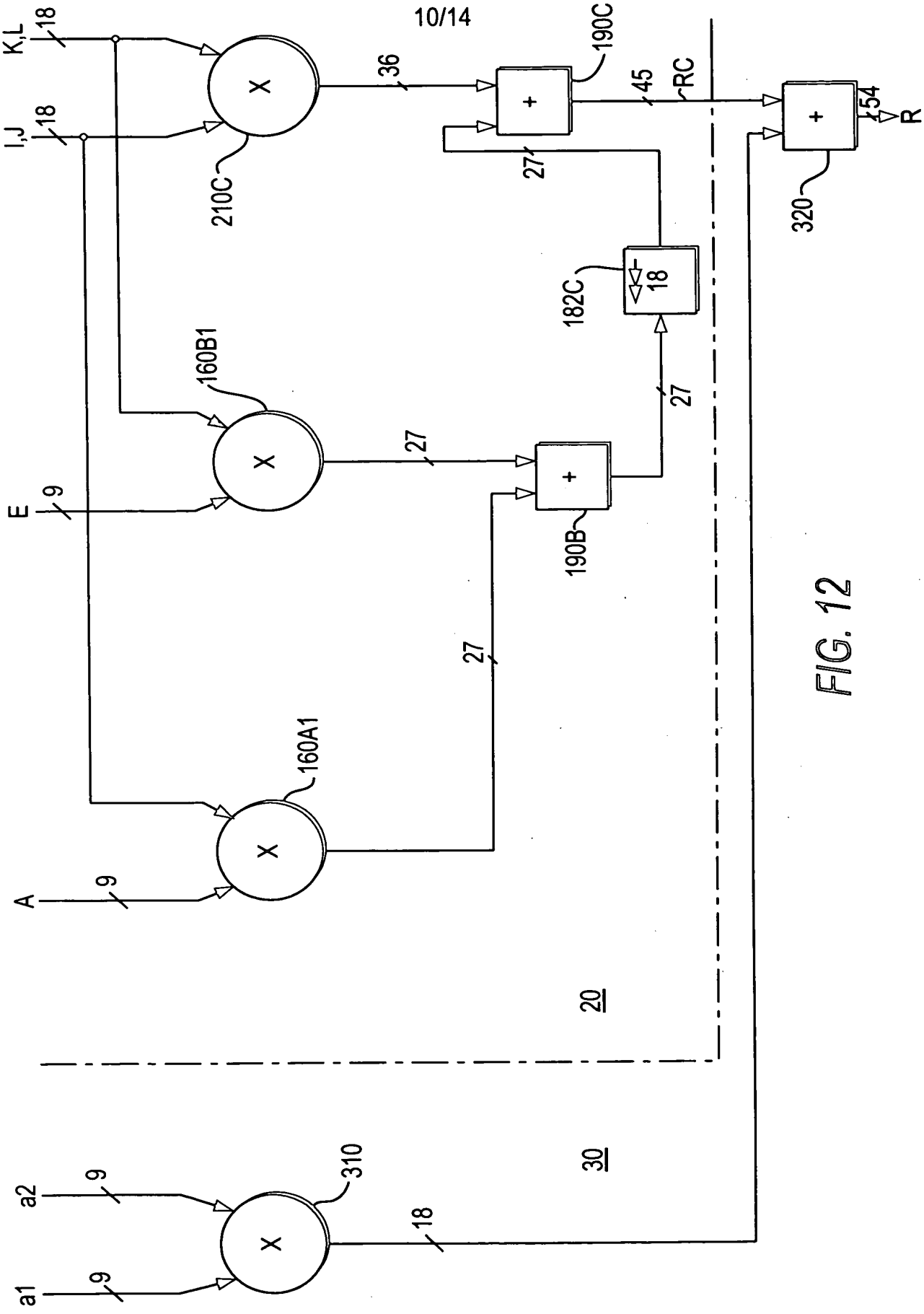
K,L
18
I,J
18
X
210C
36
+
190C
45
RC
+
54
R
320
27
182C
18
160B1
X
E
9
27
+
190B
27
27
160A1
X
A
9
20
30
a2
9
a1
9
X
310
18

FIG. 12

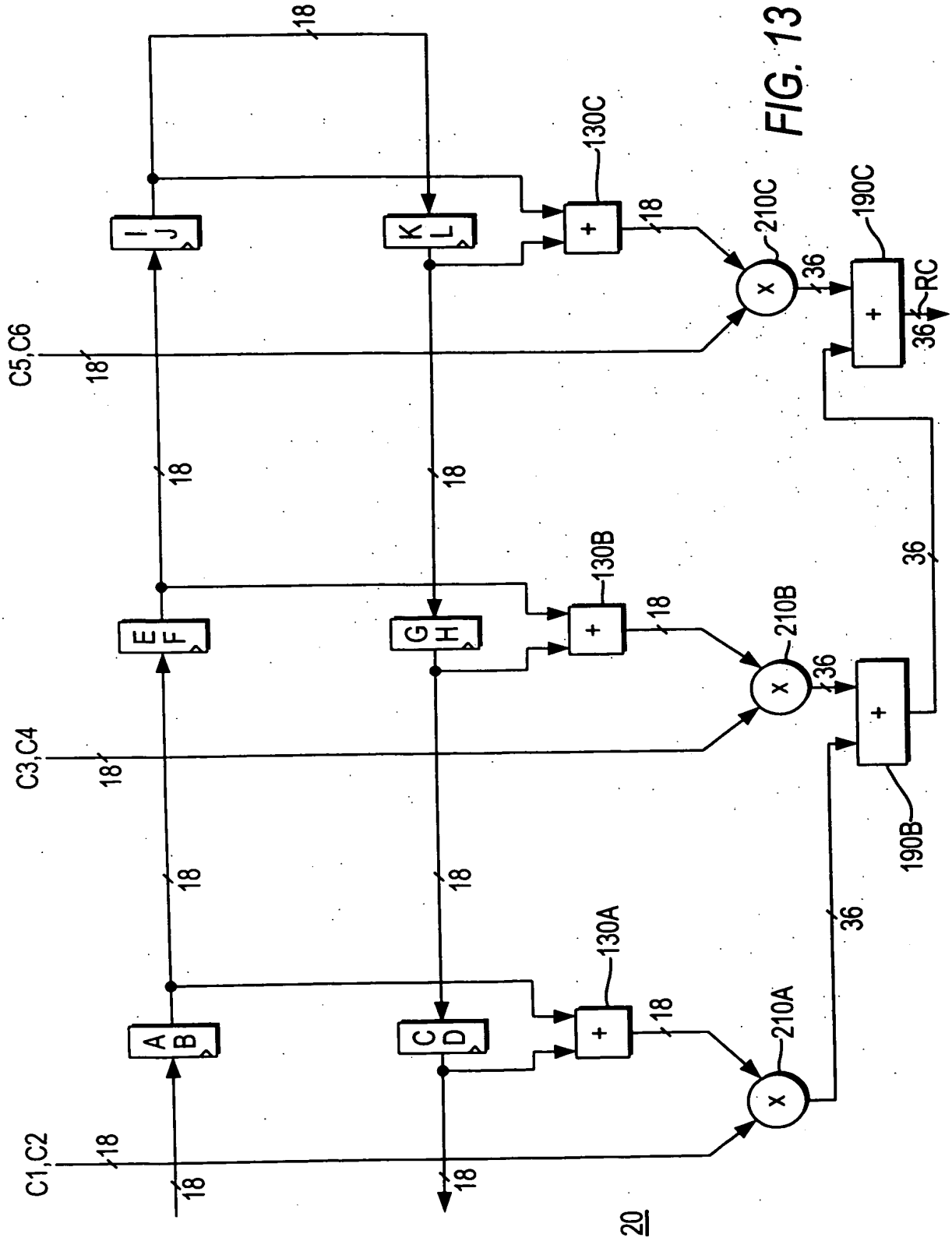
18
130C
I J
K L
+
18
210C
x
36
190C
+
36
RC
C5,C6
18
18
18
130B
E F
G H
+
18
210B
x
36
+
36
C3,C4
18
190B
18
18
130A
A B
C D
+
18
210A
x
36
C1,C2
18
18
18
20

FIG. 13

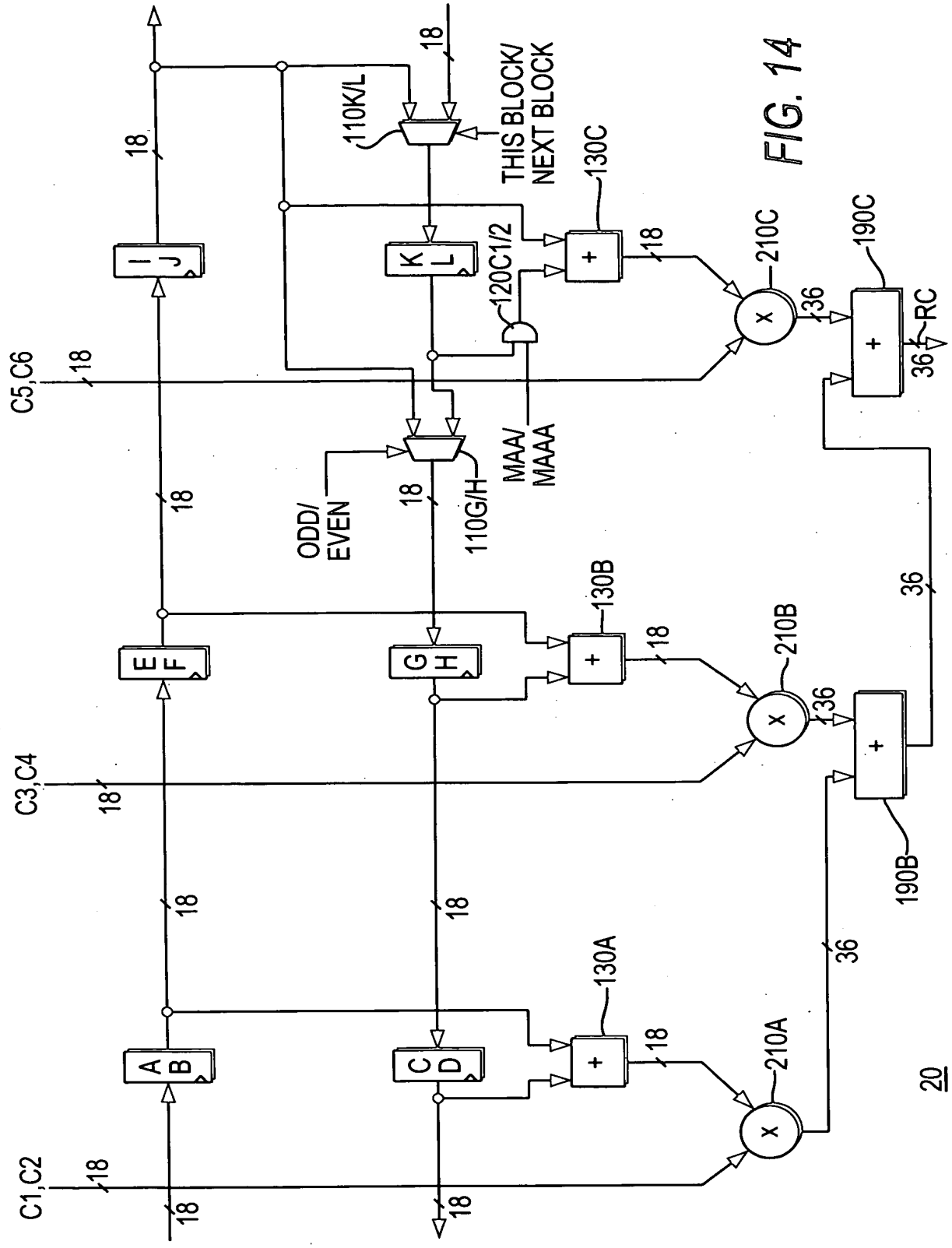
18
110K/L
THIS BLOCK/
NEXT BLOCK
130C
I J
K L
120C1/2
+
18
210C
190C
x
36
+
RC
36
C5,C6
18
ODD/
EVEN
18
110G/H
MAA/
MAAA
36
130B
E F
G H
+
18
210B
x
36
+
C3,C4
18
190B
36
130A
A B
C D
+
18
210A
x
C1,C2
18
18
18
20

FIG. 14

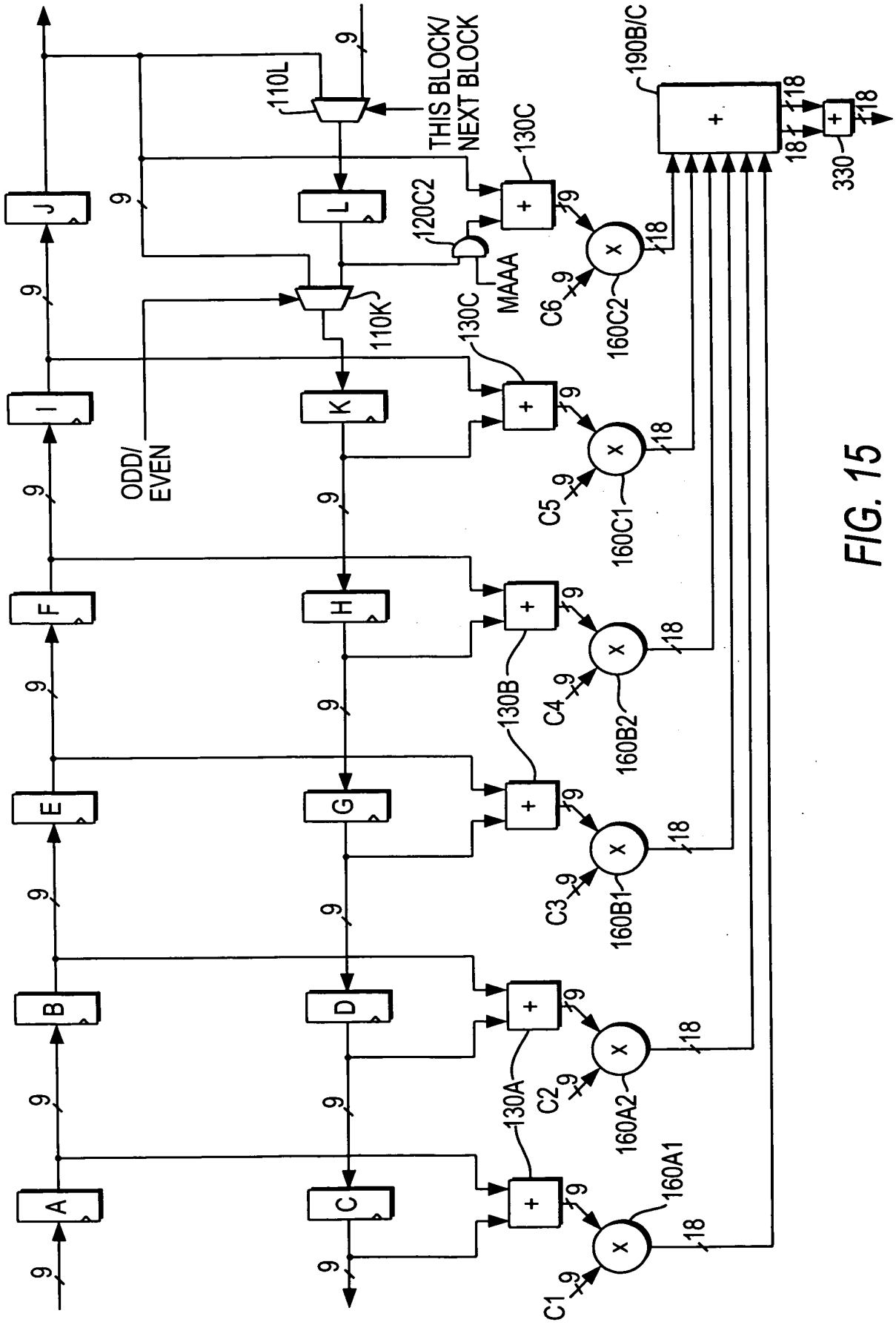
THIS BLOCK/
NEXT BLOCK
110L
110K
ODD/
EVEN
120C2
MAAA
130C
130B
130A
190B/C
160C2
160C1
160B2
160B1
160A2
160A1
330
C6
C5
C4
C3
C2
C1
A
B
C
D
E
F
G
H
I
J
K
L
9
18

FIG. 15

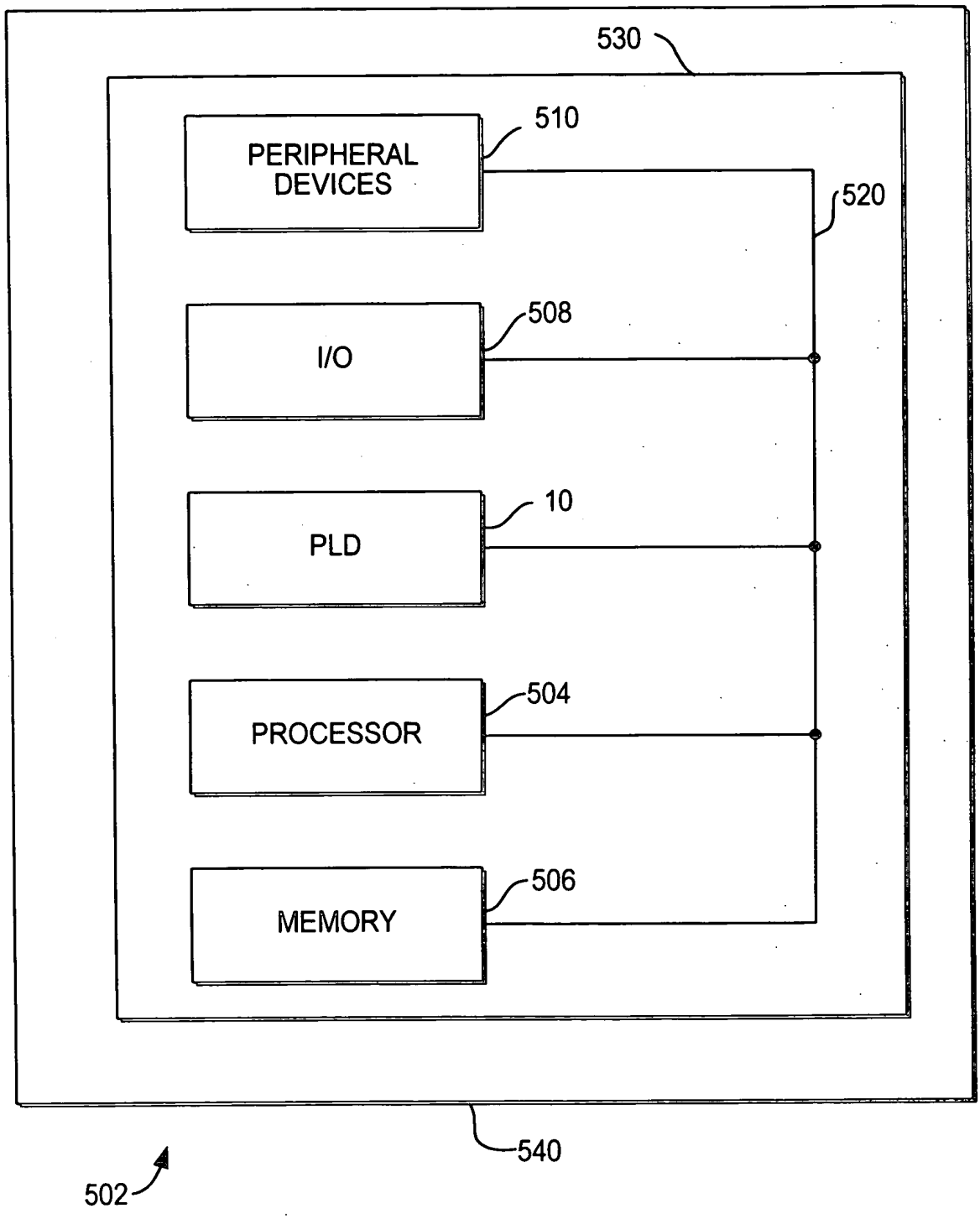
530
510
PERIPHERAL DEVICES
520
508
I/O
10
PLD
504
PROCESSOR
506
MEMORY
540
502

FIG. 16